99706-5

# CONTRACT INSPECTION REPORT

CONTRACT NO.

TASK NO. 25X1

TO:

CONTRACT ADMINISTRATION & SETTLEMENT
BRANCH/PD/OL

DATE: 4 November 1966

INSPECTION REPORT NO. *(If final, so state)*: 10

ESTIMATED COMPLETION DATE: 30 March 1967

NAME OF CONTRACTOR

Corning Glass Works

TYPE OF COMMODITY OR SERVICE

Improved Rear-Projection Screen

THE CONTRACTOR IS ON SCHEDULE [X] YES [ ] NO

PER CENT OF WORK COMPLETED - 60%

PER CENT OF FUNDS EXPENDED - 58%

THE CONTRACTOR WILL PROBABLY REMAIN WITHIN ALLOCATED FUNDS [X] YES [ ] NO IF ANSWER IS "NO" ADVISE RECOMMENDATION AND/OR ACTION OF SPONSORING OFFICE, ON REVERSE HEREOF. IF KNOWN, INDICATE MAGNITUDE OF ADDITIONAL FUNDS INVOLVED.

HAS AN INTERIM REPORT, FINAL REPORT, PROTOTYPE, OR OTHER END ITEM BEEN RECEIVED FROM THE CONTRACTOR DURING THE PERIOD? [X] YES [ ] NO *(If yes, give details on reverse side.)*

HAS GOVERNMENT-OWNED PROPERTY BEEN DELIVERED TO CONTRACTOR DURING THIS PERIOD? [ ] YES [X] NO *(If yes, indicate items, quantity, and cost on reverse side.)*

## INCENTIVES

IS THIS AN INCENTIVE CONTRACT [ ] YES [X] NO

IF YES, CHECK TYPE

[ ] COST [ ] AWARD FEE [ ] PERFORMANCE [ ] DELIVERY

NOTE:
USE REVERSE SIDE FOR COMMENTS.
FINAL REPORT MUST CONTAIN INCENTIVE EVALUATION.

## OVERALL PERFORMANCE OF CONTRACTOR

1. [ ] OUTSTANDING
2. [ ] EXCELLENT
3. [ ] VERY GOOD
4. [X] ABOVE AVERAGE
5. [ ] AVERAGE
6. [ ] MINIMUM ACCEPTABLE
7. [ ] UNSATISFACTORY

IF OVERALL PERFORMANCE OF CONTRACTOR IS UNSATISFACTORY OR MINIMUM ACCEPTABLE INDICATE REASONS ON REVERSE SIDE.

## RECOMMENDED ACTION

[X] CONTINUE AS PROGRAMMED

[ ] WITHHOLD PAYMENT PENDING SATISFACTORY PERFORMANCE

[ ] TERMINATE

[ ] OTHER *(Specify)*

IF TERMINATION IS RECOMMENDED OR IF THIS IS A FINAL REPORT PUT COMMENTS ON REVERSE IN NARRATIVE FORM ON CONTRACTOR'S PERFORMANCE AND CERTIFY THAT ALL DELIVERABLE ITEMS UNDER THE CONTRACT HAVE BEEN RECEIVED. THESE INCLUDE, WHERE APPLICABLE, THE FOLLOWING:

| ITEM | REC'D | DOES NOT APPLY | ITEM | REC'D | DOES NOT APPLY |
|---|---|---|---|---|---|
| PROTOTYPES | | | MANUALS | | |
| DRAWINGS AND SPECIFICATIONS | | | FINAL REPORT | | |
| PRODUCTION AND/OR OTHER END ITEMS | | | SPECIAL TOOLING | | |
| | | | OTHER GOVERNMENT PROPERTY | | |

DATE OF LAST CONTACT WITH CONTRACTOR: 24 October 1966

25X1

FORM 1897 USE PREVIOUS [ ] UNCLASSIFIED [X] CONFIDENTIAL [ ] SECRET (12-36)

NARRATIVE REPORT | ☒ INTERIM ☐ FINAL

Inspection reports Numbers 13 and 14 have been received.

Inspection visit of 24 October 1966.

1. Attendees:

[redacted] 25X1

2. The program and progress to date were reviewed. Questions that [redacted] had regarding the validity of the modulation transfer analyser were satisfied. The spot size projected onto the screen sample will be 15MM and the MTF analyser will average the signal over several single frequencies in electronic circuitry to establish a measurement for each frequency. 25X1

3. Corning has indicated that their theoretical analysis shows that scattering techniques can only achieve a direction of 30% of the incident light within a 45° forward scattering lobe. Since existing materials have already achieved this level, even though the brightness intensity varies within this 45° cone, Corning was told that they should not continue to investigate this technique if their theoretical approach is accurate. The best two of the scattering materials will be further treated to verify the accuracy of the theory.

4. Testing and formulation of other materials is progressing satisfactorily.

A. Control treatment of the fotoform material will produce variations in both the depth and uniformity of the lenticular surface treatment.

B. Limited investigation is being undertaken in the utilization lenticular beads, varying both size and index of refraction.

C. A "sawtooth" lenticular plate is being drawn. The widths of the lenticular segments will be drawn to 230 microns, 30 microns, 20 microns, and 10 microns. Scattering techniques will also be combined with this method.

5. Corning was asked to provide the following:

A. A summary of the equations used to calculate the data in Table I of Report # 14.

B. A report on the brightness intensity variation for the materials in Table II of Report # 12.

C. A light efficiency plot of each material tested.

D. A table showing the data of each material calculated from the relationship of area under the gain versus the viewing angle ($0^{\circ}$ to $45^{\circ}$) curve divided by the area of a square wave of magnitude of the largest gain and to $45^{\circ}$. It was established that gain is calculated by:

$$G = \frac{\text{Gain } 0^{\circ} - \text{Gain } 45^{\circ}}{\text{Gain } 0^{\circ} + \text{Gain } 45^{\circ}}$$

E. A plot for each material of the modulation transfer function (MTF) at the following ambient light levels:

1. 0 ft.-lamberts
2. 1 ft.-lamberts
3. 5 ft.-lamberts
4. 10 ft.-lamberts

It was agreed that the MTF would only be measured on axis and the color temperature for both projection and ambient illumination would be $3500^{\circ}K$.

F. Corning will comment on the method of data presentation in their next report.